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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/563,004

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Andreas W. Daum

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP
1279 OAKMEAD PARKWAY
SUNNYVALE, CA 94085-4040

EXAMINER

ANDERSON, FOLASHADE

ART UNIT

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3623

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,004	Applicant(s) DAUM, ANDREAS W.	
	Examiner FOLASHADE ANDERSON	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01/06/2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is made FINAL in response to Applicant's submission filed on 01/06/2011.

Status of Claims

2. Currently, claims 1-15 are pending. Claims 1-6, 8-11 and 15 are amended.

Response to Amendment

3. Applicant's amendments to claims 1, 4, and 15 are sufficient to overcome the 35 U.S.C. 112, second paragraph rejection set forth in the previous office action.

4. Applicant's amendments to claims 2, 3, and 5 are sufficient to overcome the 35 U.S.C. 112, second paragraph rejection set forth in the previous office action.

5. Applicant's amendments to claim 8 are sufficient to overcome the 35 U.S.C. 112, second paragraph rejection set forth in the previous office action.

6. Applicant's amendments to claims 9 and 10 are sufficient to overcome the 35 U.S.C. 112, second paragraph rejection set forth in the previous office action.

7. Applicant's amendment to claims 1 and 15 are sufficient to overcome the 35 U.S.C. 101 rejection set forth in the previous office action.

Response to Arguments

8. Applicant arguments with respect to the 35 U.S.C. 102 and 35 U.S.C. 103 rejections of the previous office actions are directed towards newly added limitations which have been fully addressed in the updated rejection.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 1, 5-7 and 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lautzenheiser** (US Patent 6,023,572) in view of **Fox** (US Patent 5,890,134 A).

11. Claim 1

Lautzenheiser teaches a method, implemented by a computer system programmed to configure a business process for scheduling, the method comprising: forming, by the computer system, a graph representing the business process that comprise activities (**Lautzenheiser col. 7, lines 7-8; where a task is the equivalent of an activity**), each activity comprising at least one of a start date type and a stop date type (**Lautzenheiser col. 7, lines 8-10**); the activities being in a time relationship to each other (**Lautzenheiser fig. 7 and col. 4, lines 39-42**); wherein the business process is configurable with respect to the activities and with respect to the time relationships of the activities to each other (**Lautzenheiser col. 8, lines 1-11; where the various scenarios depicts the configurability of the process**); and

Lautzenheiser does not expressly teach performing, by the computer system, a backward depth-first search on the graph to schedule the activities according to a reverse chronological order to a first date presented in the graph, followed by a forward depth-first search on the graph to schedule remaining activities according to a chronological order.

Fox teaches in the analogous art of scheduling optimization performing, by the computer system, a backward depth-first search on the graph to schedule the activities according to a reverse chronological order to a first date presented in the graph, followed by a forward depth-first search on the graph to schedule remaining activities according to a chronological order (**Fox col. 8, lines 33-65**)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the invention of **Lautzenheiser** the backward depth-first search on the graph to schedule the activities according to a reverse chronological order to a first date presented in the graph, followed by a forward depth-first search on the graph to schedule remaining activities according to a chronological order as taught by **Fox** since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

12. Claim 5

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein at least one of the activities can be modeled as a plurality of sub-processes (**Lautzenheiser col. 8, lines 12-15 and fig. 7**).

13. Claim 6

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein a sub-process comprise a plurality of the activities (**Lautzenheiser col. 7, lines 6-8 and col. 8, lines 12-15**).

14. Claim 7

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein a decision whether or not a delegation is invoked is during run-time of the scheduling (**Lautzenheiser col. 7, lines 41-43**).

15. Claim 10

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein at least one delegation scheme is assigned to at least one activity (**Lautzenheiser col. 7, lines 13-16**), the delegation the service function being usable for invoking, during scheduling, an external application for determining start date or finish date of the at least one activity (**Lautzenheiser col. 7, lines 4-6; where MS project is an external application**).

16. Claim 11

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein the activities and their time relationship are representable by the graph as a network of nodes and edges (**Lautzenheiser col. 13, lines 52-53**), each node

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representing one of the plurality of activities (**Lautzenheiser col. 7, line 6-8**), and each edge connecting a pair of nodes and representing a predecessor-successor relationship of the activities represented by the respective pair of nodes (**Lautzenheiser fig. 7**).

17. Claim 12

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein a scheduling scheme is produced based on the configured business process, whereby the scheduling scheme is a set of meta data descriptive of how the individual activities are to be processed within scheduling (**Lautzenheiser fig. 7 and col. 8, lines 33-45**).

18. Claim 13

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein a scheduling scheme is associated to the business process (**Lautzenheiser fig. 7**), the scheduling scheme comprising configuration data to at least one of duration, calendar, and time zone (**Lautzenheiser col. 7, lines 8-10 where a start and end imply a duration**).

19. Claim 14

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, wherein a scheduling scheme is associated to the business process, the scheduling scheme comprising configuration data to at least one of service function, and delegation process model (**Lautzenheiser col. 8, lines 11-14**).

20. Claim 15

Lautzenheiser and **Fox** teach a method, implemented by a computer system programmed to configure a production process for simulating, the method comprising: forming, by the computer system, a graph representing the production process comprises a plurality of elements (**Lautzenheiser col. 7, lines 7-8; where a task is the equivalent of an element**), each element comprising at least one of a start date type and a stop date type (**Lautzenheiser col. 7, lines 8-10**) the elements being in a time relationship to each other (**Lautzenheiser fig. 7 and col. 4, lines 39-42**) wherein the production process is configurable with respect to the plurality of elements and with respect to the time relationships of the elements to each other (**Lautzenheiser col. 8, lines 1-11; where the various scenarios depicts the configurability of the process**) and

Lautzenheiser does not expressly teach performing, by the computer system, a backward depth-first search on the graph to simulate the elements according to a reverse chronological order to a first date presented in the graph, followed by a forward depth-first search on the graph to schedule remaining elements according to a chronological order.

Fox teaches in the analogous art of scheduling optimizing backward depth-first search on the graph to simulate the elements according to a reverse chronological order to a first date presented in the graph, followed by a forward depth-first search on the graph to schedule remaining elements according to a chronological order (**Fox col. 8, lines 33-65**)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the invention of **Lautzenheiser** the backward depth-first search on the graph to simulate the elements according to a reverse chronological order to a first date presented in the graph, followed by a forward depth-first search on the graph to schedule remaining elements according to a chronological order as taught by **Fox** since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

21. Claim 2-4, 8 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over **Lautzenheiser** (US Patent 6,023,572) and **Fox** (US Patent 5,890,134 A) as applied to claim 1 above, and further in view of **Malin** et al (US Pub. 2002/0007289).

22. Claim 2

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, and further teaches that the use of MS Project (**Lautzenheiser col. 7, lines 4-5**); however is silent on wherein a technical ID is associated with at least one of the activities or with a date type.

Malin teaches in the analogous art of automobile repair, wherein a technical ID is associated with at least one of the activities or with a date type (**Malin par. 0059; where Malin also uses MS project see par. 0060**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the invention of **Lautzenheiser** and **Fox** the technical ID

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is associated with at least one of the activities or with a date type as taught by **Malin** since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

23. Claim 3

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, and further teaches that the use of MS Project (**Lautzenheiser col. 7, lines 4-5**); however is silent wherein a text is associated with at least one of the activities or with a date type, the text being descriptive for the at least one of the activities or for the date type.

Malin teaches in the analogous art of automobile repair, wherein a text is associated with at least one of the activities or with a date type, the text being descriptive for the at least one of the activities or for the date type (**Malin par. 0059; where Malin also uses MS project see par. 0060**)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the invention of **Lautzenheiser** and **Fox** the text is associated with at least one of the activities or with a date type, the text being descriptive for the at least one of the activities or for the date type as taught by **Malin** since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

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24. Claim 4

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, and further teaches that the use of MS Project (**Lautzenheiser col. 7, lines 4-5**); however is silent wherein time units are assigned to specific date types, the time units being configurable for each date type.

Malin teaches in the analogous art of automobile repair wherein time units are assigned to specific date types, the time units being configurable for each date type (**Malin par. 0059 and fig. 3 where Malin also uses MS project see par. 0060**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the invention of **Lautzenheiser** and **Fox** the time units are assigned to specific date types, the time units being freely configurable for each date type as taught by **Malin** since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

25. Claim 8

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, and further teaches that the use of MS Project (**Lautzenheiser col. 7, lines 4-5**); however is silent, wherein at least one service function is assigned to at least one activity, the service function being usable for determination of time zone, calendar and duration of the at least one activity.

Malin teaches in the analogous art of automobile repair wherein at least one service function is assigned to at least one activity, the service function being usable for determination of time zone, calendar and duration of the at least one activity (**Malin fig. 3**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the invention of **Lautzenheiser** and **Fox** the at least one service function is assigned to at least one activity, the service function being usable for determination of time zone, calendar and duration of the at least one activity as taught by **Malin** since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

26. Claim 9

Lautzenheiser and **Fox** teaches all the limitation of the method of Claim 1, and further teaches that the use of MS Project (**Lautzenheiser col. 7, lines 4-5**); however is silent, method of Claim 1, wherein at least one service function is assigned to at least one activity, the service function being usable, during scheduling, for determining start date or finish date of the at least one activity.

Malin teaches in the analogous art of automobile repair at least one service function is assigned to at least one activity, the service function being usable, during scheduling, for determining start date or finish date of the at least one activity (**Malin fig. 3 #300**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the invention of **Lautzenheiser** and **Fox** at least one service function is assigned to at least one activity, the service function being usable, during scheduling, for determining start date or finish date of the at least one activity as taught by **Malin** since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Conclusion

27. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Ottoni et al (US Patent 7,882,498 B2) teaches performing a backwards depth-first search on the dependency graph
- Edstrom et al (US Patent 5,233,533) teaches to backward-forward schedule the series of processes, the main procedure 89 serially schedules in backward order the sequence of processes of an ordered item, from the specified required completion date of the order backward in time toward the first day for scheduling.
- Klein (Bidirectional planning improving priority rule-based heuristics for scheduling resources-constrained projects, 1999) teaches backward planning of scheduling activities

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28. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FOLASHADE ANDERSON whose telephone number is (571)270-3331. The examiner can normally be reached on Monday through Thursday 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Boswell can be reached on (571) 272-6737. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Folashade Anderson/
Examiner, Art Unit 3623

/Andre Boyce/
Primary Examiner, Art Unit 3623